

The Discussion Web: A graphic aid for learning across the curriculum

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This article describes the Discussion Web, a special kind of graphic aid for teaching students to look at both sides of an issue before drawing conclusions. The Discussion Web can be used across curriculum areas and grade levels. After providing the background and rationale of this graphic aid, I present a five-step procedure for using it. I conclude with examples of Discussion Webs that teachers have made and commented on as well as examples of webs in action across the curriculum.

Group discussions stimulate thinking. The notion that thinking originates within individuals (and only after that is it ready to be shared socially) has given way to the belief that some of the best thinking results from a group's collective effort (Sternberg, 1987; Vygotsky, 1962). In group discussions, children often discover that their beliefs and values differ from those of their peers. Although this discovery may be a bit discomfiting at times, from it can come a heightened aware-

ness of what it means to develop a tolerance for points of view that may differ from one's own (Pinnell, 1984).

Discussion plays an integral part in guiding students' interpretations of reading selections (Alvermann, Dillon, & O'Brien, 1987; Au & Scheu, 1989). In discussions in which students examine more than one point of view, there is ample opportunity to enrich and refine understanding of what is read. Enrichment comes from viewing one's own interpretation in light of others' interpretations. This openness to the ideas of others is what May (1967) has called a listening attitude. The Discussion Web fosters development of a listening attitude by helping students eliminate inconsistencies and contradictions in their own thinking.

A problem with most discussions is the tendency for teachers and a few highly verbal students to monopolize classroom talk. When this happens, as Perez and Strickland (1987) have noted, other students soon become inhibited, self-conscious, and unwilling to voice their opinions. One way to counteract the tendency for a small number of individuals to dominate classroom discussions is to provide all children with the opportunity to assume their own voices in these discussions (Palincsar & Brown, 1989). The Discussion Web gives students this opportunity. It does so by incorporating an adaptation of McTighe and Lyman's (1988) think-pair-share discussion cycle. In the adapted version of this cycle, students *think* individually about the ideas

they want to contribute to the discussion and then discuss these ideas with a partner. Next, the partners *pair up* with a different set of partners to work toward consensus by eliminating inconsistencies and contradictions in their own thinking. Finally, the two sets of partners, working as a group of four, decide which ideas a spokesperson from the group will *share* with the entire class in the whole-group discussion that follows.

By talking with partners and pairs of partners prior to engaging in whole-class discussion, students have multiple opportunities to interact. This type of discussion differs from the more traditional pattern of classroom interaction in which teachers call on students to respond one at a time. Small group discussions also encourage active participation by shy or quiet students and by students whose first language is not English.

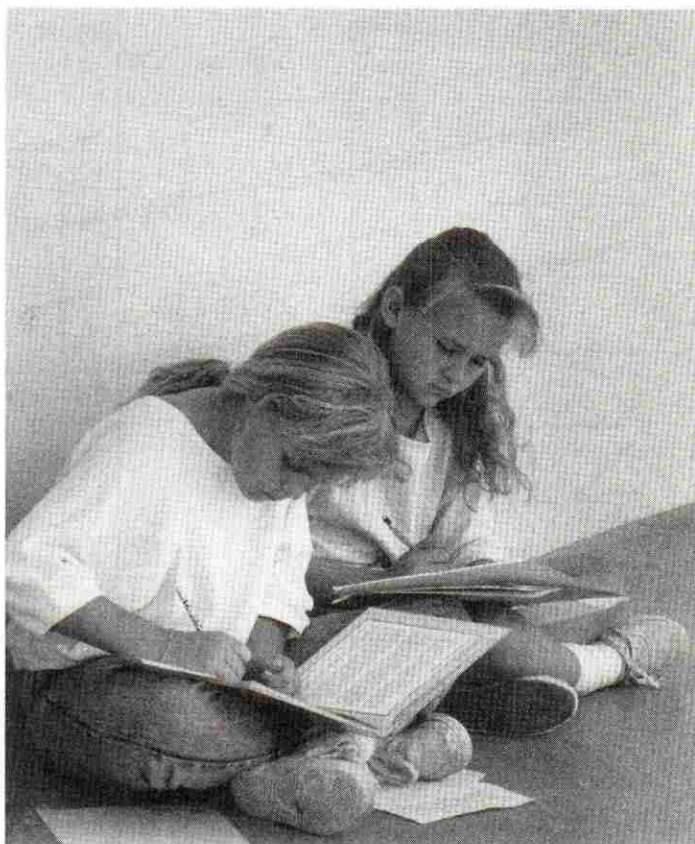
The idea for developing the Discussion Web came from an article written by a social studies teacher named James Duthie (1986). Duthie described a way to help students avoid what he called “the narrative trap” (p. 232), the tendency to describe *what* happens rather than *why* it happens. He named his graphic aid a Web Outline, and he used it to help students write analytical essays that dealt with previously assigned reading.

Although the Discussion Web resembles the Web Outline in its physical format, it differs from Duthie’s web in several ways. First, the Discussion Web incorporates all four of the language arts (reading, writing, speaking, and listening), not just reading and writing. Second, it functions as either a prereading or prewriting strategy, not just as a postreading strategy. Third, the Discussion Web requires students to work in cooperative learning groups, not alone.

Five-step procedure

There are five steps that teachers and students typically proceed through in completing a Discussion Web.

1. Prepare students to read a selection as you normally would by activating their background knowledge, introducing new vocabulary, and setting purposes for reading. For example, if you planned to use the Discussion Web in Figure 1, which is based on Chapter 9 (“The Race”) of *Stone Fox* (Gardiner, 1980), you might encourage students to recall what

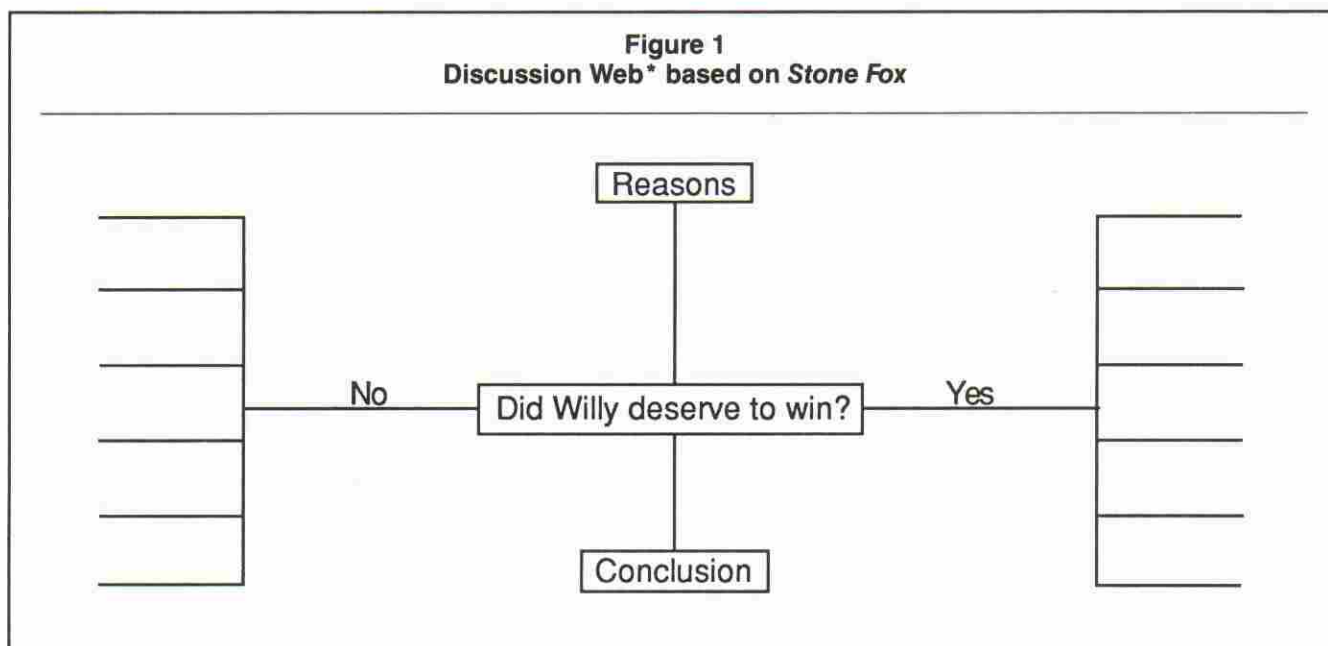


Students have multiple opportunities to interact with partners prior to engaging in whole-class discussion. Photo by Robert Finken

has happened so far in the story. You might also introduce key vocabulary such as *reservation*, *contestants*, *disqualified*, and *Samoyeds* before helping students set their own purposes for reading. Some may want to read to find out who won the race; others may want to know whether Little Willy’s grandfather was able to hold on to his farm. In this story, Little Willy’s grandfather is ill and stands to lose the farm unless Little Willy can come up with \$500. Little Willy and his dog, Searchlight, enter the annual dog sled race which his main competitor, Stone Fox, has won in the past. Stone Fox, a Native American, has used the \$500 prize money to buy back land taken by white settlers. In this year’s race, however, Stone Fox declares Willy to be the winner when Searchlight drops dead just short of the finish line.

2. After students have read “The Race” and satisfied their own purposes for reading,

Figure 1
Discussion Web* based on *Stone Fox*



*Adapted from Duthie, J. (1986). *The History and Social Science Teacher*, 21, 232-236.

introduce the Discussion Web with a question such as "Did Willy deserve to win?" Place students in workable partnerships, and ask each partner to discuss the pros and cons of Little Willy's winning the race at the expense of his dog, Searchlight. Suggest that partners work on the same Discussion Web but take turns jotting down in the YES and NO columns the reasons they believe Little Willy did and did not deserve to win the race. Students need only write key words or phrases in the YES and NO columns. They do not have to fill all the lines; however, it is important that they try to give an equal number of reasons in each column. By looking at both sides of an issue, students are engaging in critical thinking.

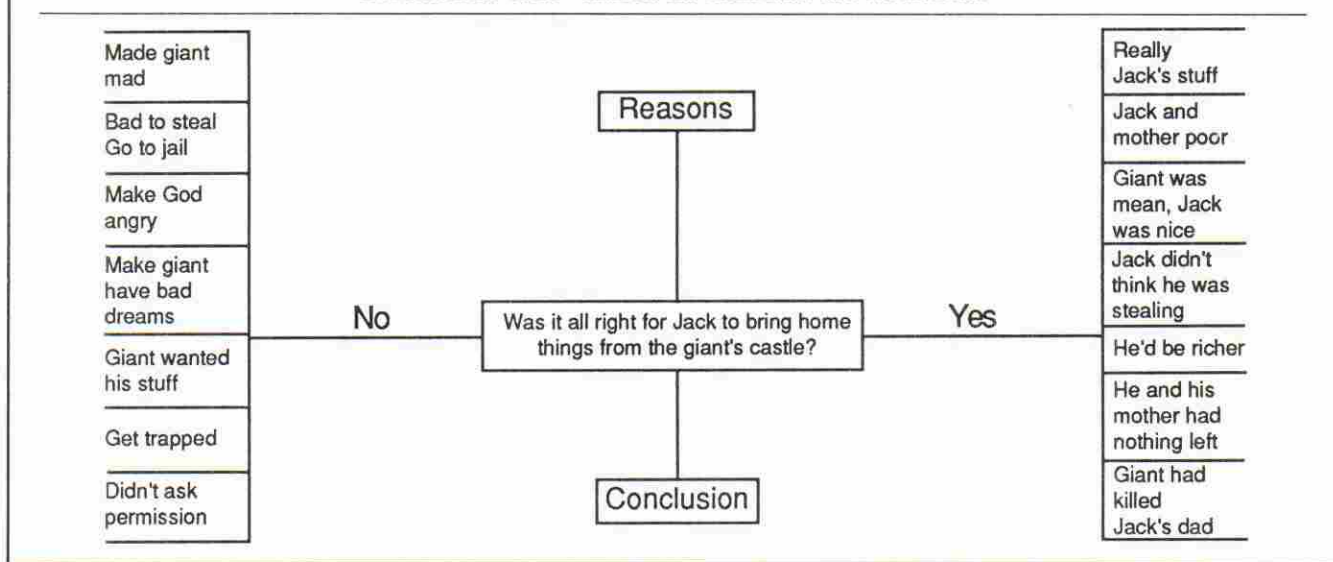
3. When students have had sufficient time to jot down a few of their reasons, call that part of the process to a close and pair one set of partners with another set of partners. Ask the new group of four students to compare their reasons for believing that Little Willy did or did not deserve to win the race. The goal is to work toward a consensus. Tell students that in reaching a group conclusion, it is perfectly acceptable for individual members to disagree with that conclusion. However, remind them that the discussion process will be more effective if each member of the group keeps an open mind as he or she listens to the reasons others give. Also, remind students that dis-

senting views will be heard at the time of the large-group discussion. Older and more mature students actually enjoy working toward consensus, especially if they know in advance that dissenting views will be heard.

4. When each group of four has reached its conclusion, move to the next stage. Either select a spokesperson for each group or allow the groups to select their own. Then, give each group approximately 3 minutes to discuss which of all the reasons given best supports the group's conclusion. Suggest that the spokesperson jot down this reason at the bottom of the Discussion Web. Requiring each group to select only one reason reduces the possibility that the spokespersons for the last few groups to report will have nothing new to say. Finally, call on the different spokespersons to report for their groups as part of the whole-class discussion. If spokespersons forget to mention any dissenting viewpoints, remind them to do so.

5. As a follow-up activity, suggest that individual students write their answers to the Discussion Web question "Did Willy deserve to win?" Encourage students to include their own ideas as well as those expressed by others. Post their individual responses in a prominent place in the classroom so that they can be read by others. Providing students with an opportunity to respond in writing to the same

Figure 2
Discussion Web* based on *Jack and the Beanstalk*



*Adapted from Duthie, J. (1986). *The History and Social Science Teacher*, 21, 232-236.

question after the large-group discussion has taken place brings closure to the Discussion Web. It also gives students an opportunity to reflect upon the contributions of others.

Grade level and content area examples

Many teachers have used the Discussion Web with their classes across a variety of grade levels and content areas. Occasionally, after doing a staff development workshop on discussion strategies, I receive feedback on how teachers and students are using and adapting the Discussion Web to fit their own needs. Following are examples of Discussion Webs that teachers in Colorado and Georgia have used and commented on at the kindergarten, second-, and fourth-grade levels. In each instance, I have quoted directly from the teachers' comments. With the exception of two supporting reasons from the kindergartners' Discussion Web that ran off the page on the copy forwarded to me, the Webs are exactly as the teachers and students constructed them.

Kindergarten. Ramona Stephens of East Elementary School in Littleton, Colorado, sent the Discussion Web displayed in Figure 2. Her comments accompanying the web were as follows:

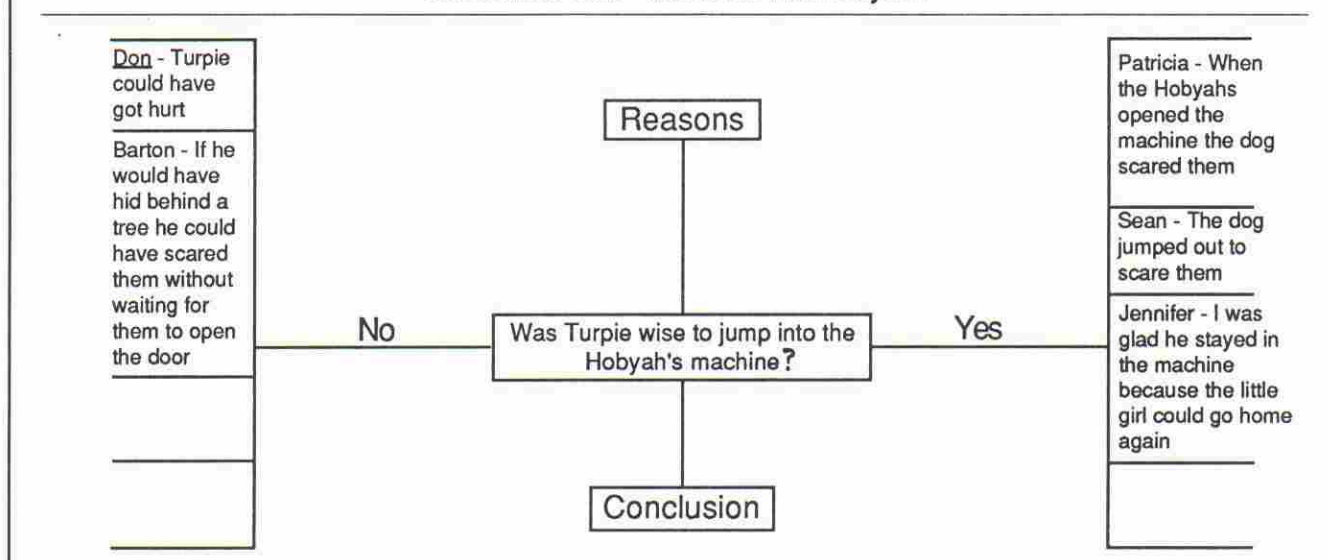
The web was utilized in my kindergarten classroom after the children had heard the story of *Jack*

and the *Beanstalk*. Because I was working with children of this age, I did not form the students into small groups. The whole group made a listing of evidence supporting either a yes or no view to the question "Was it all right for Jack to bring home all the things from the giant's castle?" After the listing was made I decided to omit the final step of trying to reach a conclusion.... The reasons for this decision on my part were: (1) The objective for utilizing the Discussion Web with these children was to encourage their discussion of the story while promoting the concept that there were no right or wrong ideas. I felt they would feel that a right or wrong label had been put on their answers if we went to a conclusion; (2) there was such a good balance of ideas on both sides of the question that it would be difficult for even an adult to come up with a clear cut conclusion; and (3) I had maintained a storytime and good discussion with the class for nearly 25 minutes by this point,...and it was good to end the activity while there was a very positive attitude toward the experience.

This was an excellent activity for the kindergartners. Their ideas were creative. They loved seeing their thinking in writing,...and they seemed to feel both interest and pride in their part of the activity.

Second grade. Bonnie De Freece of Holly Hills Elementary School in the Cherry Creek Schools of Colorado sent the Discussion Web shown in Figure 3 based on a story titled *The Hobyahs* (Biro, 1985). De Freece used the big book version of *The Hobyahs* (Parkes & Smith, 1987) with her second graders. It is a story about a dog named Turpie who saves Little Lucy from the wild Hobyah clan, a group of marauding goblin-like characters.

Figure 3
Discussion Web* based on *The Hobyahs*



* Adapted from Duthie, J. (1986). *The History and Social Science Teacher*, 21, 232-236.

The Discussion Web question was an excellent choice because it required the children to consider what might have happened to Little Lucy if Turpie had not jumped out from his hiding place and scared the Hobyahs away. Typically, students do not question the outcome of a story. As a follow-up writing activity De Freece included these sentence starters: (1) It is my opinion that Turpie was wise to jump because.... and (2) It is my opinion that Turpie was not wise to jump because....

Evaluating her lesson, De Freece stated that in the future she would decrease the vocabulary load by substituting "I think that" for "It is my opinion that" in the sentence starters. She also noted that students enjoyed "breaking into pairs for the first discussion," but that it was "a hard assignment for the [students] to do in one class period."

Fourth grade. Sherrie Gibney of Fowler Drive Elementary School in Athens, Georgia, provided the following example of a child's written response to a Discussion Web question based on *Island of the Blue Dolphins* (O'Dell, 1960), a story about the courage and self-reliance of Karana, a Native American girl who lived alone for 18 years on an isolated island off the California coast after her tribe emigrated and left her behind. After the students read how Karana's brother Ramo was killed by

a pack of wild dogs, they responded to this Discussion Web question: "Should Karana have gone back to get her brother Ramo?" Gibney asked the students to write individual responses to the question based on their own thinking and what they had learned from others. One child's response appears in Figure 4. In response to the student's comments, Gibney wrote as follows:

February 15, 1990

Dear Daphne,
Boy, did you ever have a nice list of supporting ideas. Did you like the brother-sister relationship in this story? It seemed special.

Examples of webs in action across the curriculum

Although the Discussion Web in Figure 1 was part of a postreading discussion, it could be used as part of a prereading discussion to stimulate students' predictions about Chapter 9 in *Stone Fox* if the following adaptations were made. First, the question could be changed to read: "What do you think will happen next?" Second, instead of labeling the two columns YES and NO, they could be labeled PREDICTION 1 and PREDICTION 2. Third, after stating their predictions, students could brainstorm reasons (based on events from earlier chapters) for believing that one

Figure 4
Daphne's response based on *Island of the Blue Dolphins*

Karana should have gone back to the island because Ramo could have ran out of food and the boat might not come back and Ramo might have gotten lonely or scared and he might not be able to take care of himself and go hunting for food.

I think it would be a good idea to go back because she could teach him how to cook and take care of himself. And he could help her out and she could help him out.

prediction would more likely be supported than the other. Finally, they could read Chapter 9 to find out if their predictions were indeed supported.

Swafford (1990) suggested that adaptations could be made in the Discussion Web by simply changing the classification scheme to forge an appropriate match between it and the knowledge structures of a particular content area. Examples from mathematics, science, social studies, and literature follow.

Mathematics. The distractor items, or foils, that authors of elementary mathematics texts incorporate into word problems often confuse students. In attempting to solve such problems, students may resort to unproductive strategies like adding, subtracting, multiplying, or dividing all the numbers—including the distractor items. One way to adapt the Discussion Web to help students avoid unproductive “shotgun” approaches to mathematical problem solving involves changing the YES

and NO classification scheme to RELEVANT and IRRELEVANT. Prior to attempting the computational solution to a word problem, students would engage in thinking critically about the relevance or irrelevance of certain information. For example, in the following word problem, the numerals 2, 9, and 11 are distractors and would be placed under the category labeled IRRELEVANT.

The 2 children, 9-year-old Susan and 11-year-old Mario, delivered 3 dozen cookies to their neighbor. If the cookies sold for 90 cents a dozen, how much money should Susan and Mario collect?

Science. Self-questioning is a helpful strategy in elementary science classes. Using their past experiences and what they know about the natural world, students might employ a Discussion Web to structure their next classroom experiment. For example, they might generate a question about why acid rain is harmful. Posing this question might also lead to hypothesizing about some probable an-

swers. If the classification scheme became HYPOTHESIS 1 and HYPOTHESIS 2, students might conduct a simple experiment in which they list their results as support for one of the two hypotheses.

Social studies. Famous people and their stances on important historical issues are often topics of interest in social studies. For instance, Stephen A. Douglas and Abraham Lincoln held opposing views on the controversial slavery issue around the period of the U.S. Civil War. Substituting the names of DOUGLAS and LINCOLN for the YES and NO columns of the Discussion Web and writing *slavery* in the box where the question usually goes could turn the web into an appropriate graphic aid for a unit on the War Between the States. Students could then read their textbooks to find information to support the different stances taken by Douglas and Lincoln and write it in the appropriate columns.

Literature. After reading a library book of their own choosing or a selection from their basal text, students might use a Discussion Web to analyze the author's perspective on a topic. For example, if students had read *Charlotte's Web* (White, 1952), the question in the center of the Discussion Web might become "Did E.B. White believe in animal rights?" The classification scheme might include the names of two characters, such as CHARLOTTE and WILBUR. Students could use information from the story to support their answers to the question from Charlotte's and Wilbur's points of view.

Conclusion

Like any teaching and learning aid, the Discussion Web is constantly being modified and adapted to fit the needs of different grade levels and a variety of content areas. Its flexibility and its incorporation of the four language arts make it particularly attractive for teaching and learning across the curriculum.

To date, most of the adaptations teachers have made in the Discussion Web have been structural changes in the web itself. By and large, the adaptations have not focused on how to structure discussions for different age groups. One exception to this observation occurs primarily among first- and second-grade teachers who use the web as an alternative to the end-of-story questions presented in their

basal series. Teachers of primary school children sometimes prefer to use the Discussion Web with their small reading groups rather than with the whole class. When the web is used with reading groups, students still work together in pairs, but each student reports his or her conclusion and reasons to the other group members. In effect, this adaptation results in fewer steps and provides for more direct reporting by each student.

Many teachers have commented on the flexibility of the Discussion Web. For example, Ramona Stephens and Bonnie De Freece have pointed out that students don't always reach a conclusion, sometimes because of time limitations and other times because of teachers' concerns for children's feelings. As several teachers have noted about the web, it's the process, not the product, that is important.

After students have some experience using Discussion Webs, they frequently are able to construct their own questions for the webs. This, of course, is exactly what teachers would like to see happen in all instances. However, it would be misleading to suggest that self-questioning comes easily to all children. In fact, teachers have told me that asking good questions is sometimes difficult even for themselves. The rewards of self-questioning, whether by students or teachers, come from having struggled with ideas. One reward that makes the struggle worthwhile is the stimulating classroom discussion that results from it.

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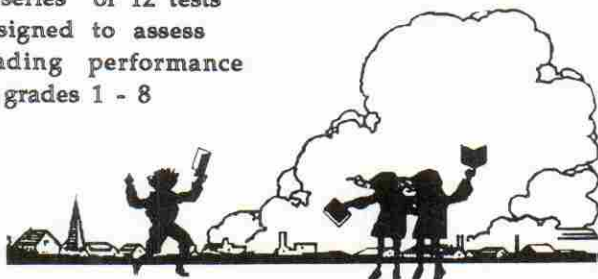
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